

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1 - 8 (canceled)

Claim 9-10 (cancelled)

Claim 11 (withdrawn): A solder configuration, comprising a pad having a surface upon which an intermetallic boundary interface is disposed, said intermetallic boundary interface defining a separation between said pad and solder that forms part of a solder joint, said intermetallic boundary interface being characterized as non-planar and having a plurality of steps, whereby a crack forming in said solder is influenced to proceed along said interface with a non-planar, stepped path, thereby lengthening its travel, and preventing failure of said solder joint.

Claim 12 (withdrawn): A solder configuration, comprising a pad having a surface upon which an intermetallic boundary interface is disposed, said intermetallic boundary interface defining a separation between said pad and solder that forms part of a solder joint, said intermetallic boundary interface being characterized as non-planar and having a plurality of concentric interruptions, whereby a crack forming in said solder is influenced to proceed along

said interface with a non-planar, interrupted path, thereby lengthening its travel, and preventing failure of said solder joint.

Claim 13 (withdrawn): A solder configuration, comprising a pad having a surface upon which an intermetallic boundary interface is disposed, said intermetallic boundary interface defining a separation between said pad and solder that forms part of a solder joint, said intermetallic boundary interface interface being characterized as non-planar and having a plurality of interdigitated interruptions, whereby a crack forming in said solder is influenced to proceed along said interface with a non-planar, interrupted path, thereby lengthening its travel, and preventing failure of said solder joint.

Claim 14 (withdrawn): A solder configuration, comprising a pad having a surface on which an intermetallic boundary interface is disposed, said intermetallic boundary interface defining a separation between said pad and solder that forms part of a solder joint, said intermetallic boundary interface being characterized as non-planar and having a cross-shaped interruption, whereby a crack forming in said solder is influenced to proceed along said interface with a non-planar, interrupted path thereby lengthening its travel, and preventing failure of said solder joint.

Claim 15-16 (cancelled)

Claim 17 (new): A solder joint for interconnecting an electronic chip to a substrate, comprising:

a metallic pad having a substantially planar lower surface for engaging said substrate and an upper surface extending in a first plane;

an obstacle formed on said upper surface and extending at least partially in a second plane vertically spaced from said first plane; and

solder coating at least a portion of both said upper surface and said obstacle, whereby micro-cracks forming in said solder adjacent to said upper surface will encounter said obstacle.

Claim 18 (new): The solder joint of claim 17, wherein said obstacle comprises a serpentine upper surface.

Claim 19 (new): The solder joint of claim 17, wherein said obstacle comprises an interdigitated strip projecting from said pad.

Claim 19 (new): The solder joint of claim 17, wherein said obstacle comprises a curved edge digit located in a central portion of said pad.

Claim 21 (new): The solder joint of claim 17, wherein said obstacle comprises at least two concentric walls extending outwardly from pad.

Claim 22 (new): The solder joint of claim 17, wherein said obstacle comprises a raised, cross-shaped member extending outwardly from pad.

Claim 23 (new): The solder joint of claim 17, wherein said obstacle comprises a plurality of cylindrical protrusions extending perpendicularly from said pad.